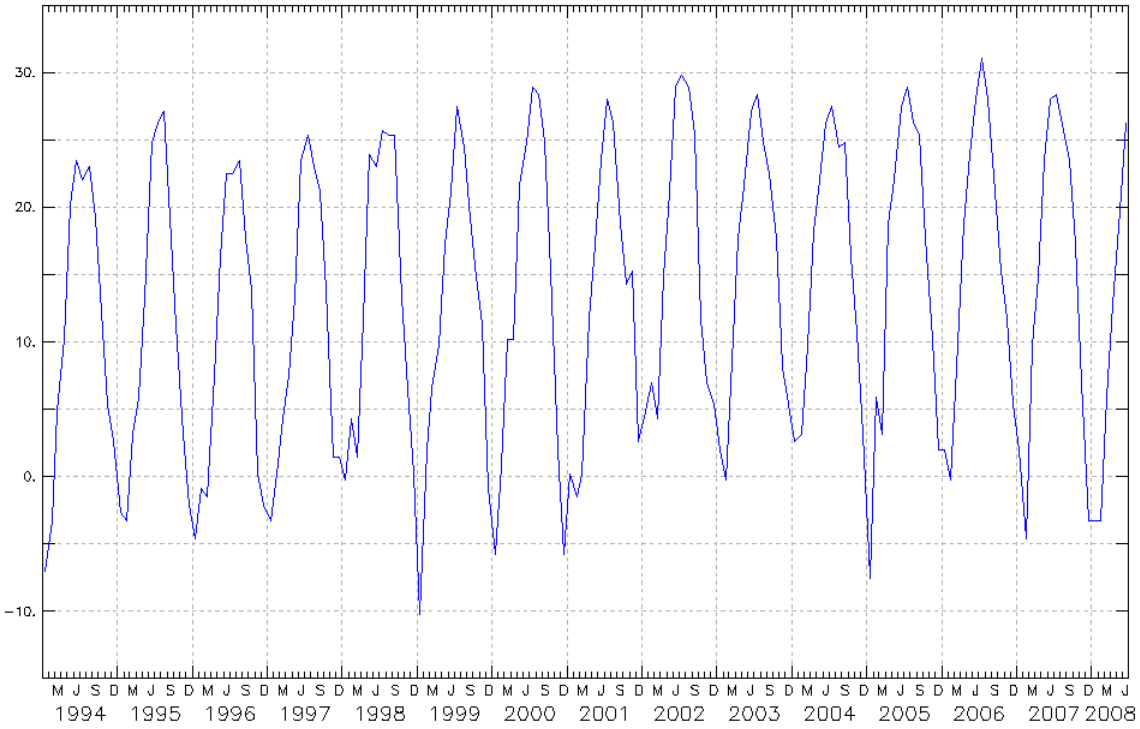
NAME:_____ DATE:_____ CLASS:_____

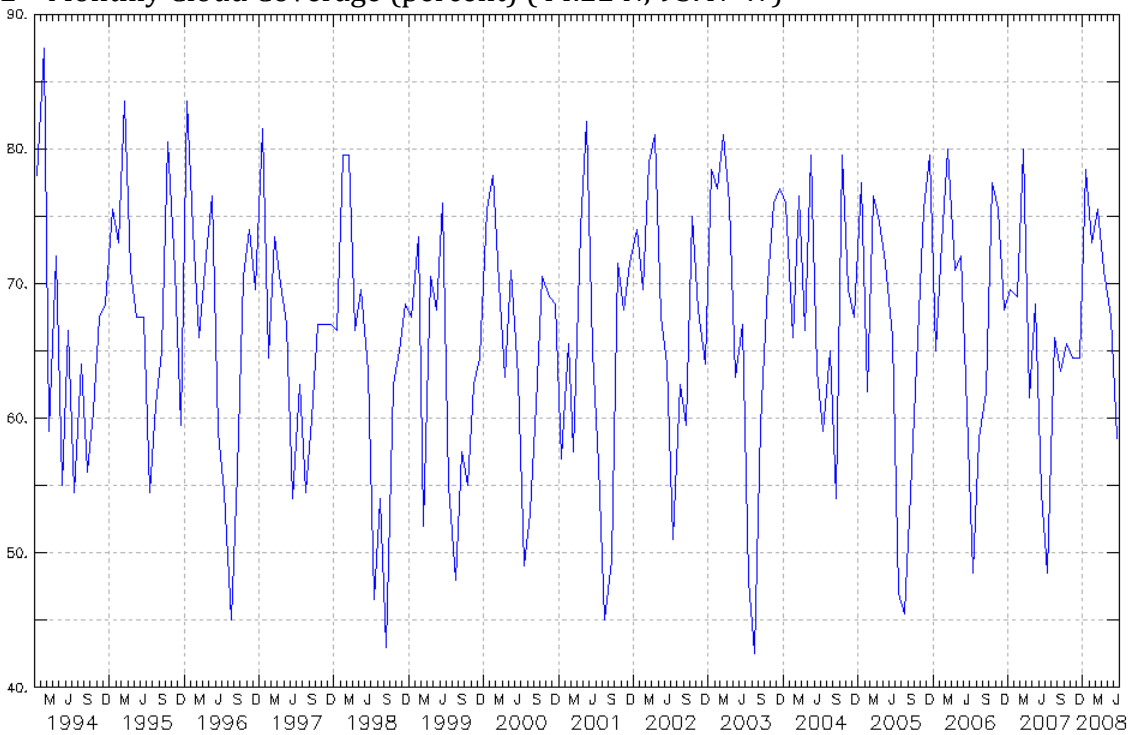
MY NASA DATA: Is Grandpa Right, Were Winters Colder When He Was A Boy?
http://mynasadata.larc.nasa.gov/?page_id=474?&passid=97

Use the following 3 plots to answer questions 1 – 4 below. These plots are for Walnut Grove, Minnesota, site of one of the Little House on the Prairie books.

Plot 1 – Near-Surface Air Temperature (degrees Celsius) (44.22 N, 95.47 W)



Plot 2 – Monthly Cloud Coverage (percent) (44.22 N, 95.47 W)

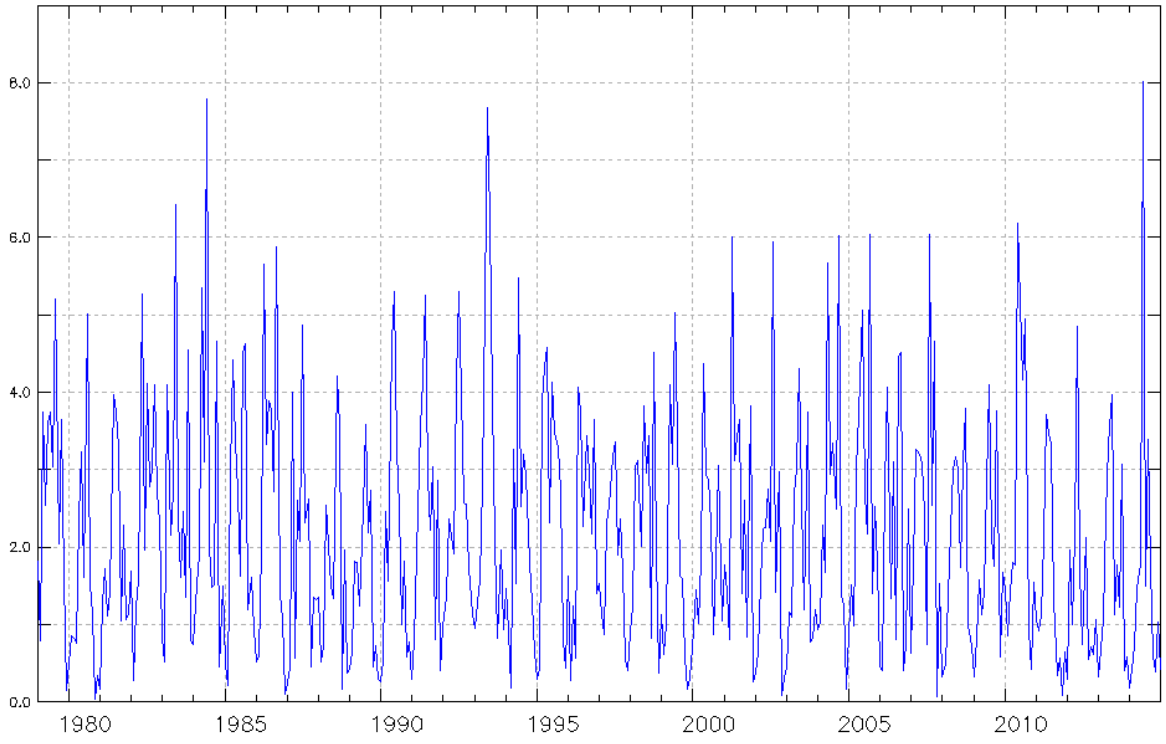


NAME:_____ DATE:_____ CLASS:_____

MY NASA DATA: Is Grandpa Right, Were Winters Colder When He Was A Boy?

http://mynasadata.larc.nasa.gov/?page_id=474?&passid=97

Plot 3 – Monthly Precipitation (millimeters per day) (44.22 N, 95.47 W)



Questions:

1. What trends can you determine from the graphs of temperature, precipitation and cloud cover? (Pay attention to the x-axis in the plots.)

2. Is it an accurate statement that winters were colder in the past? Discuss.

3. What are some possible reasons for the changes?

4. Were there notable short-term changes that may have been caused by geophysical events such as a large volcanic eruption?

NAME:_____ DATE:_____ CLASS:_____

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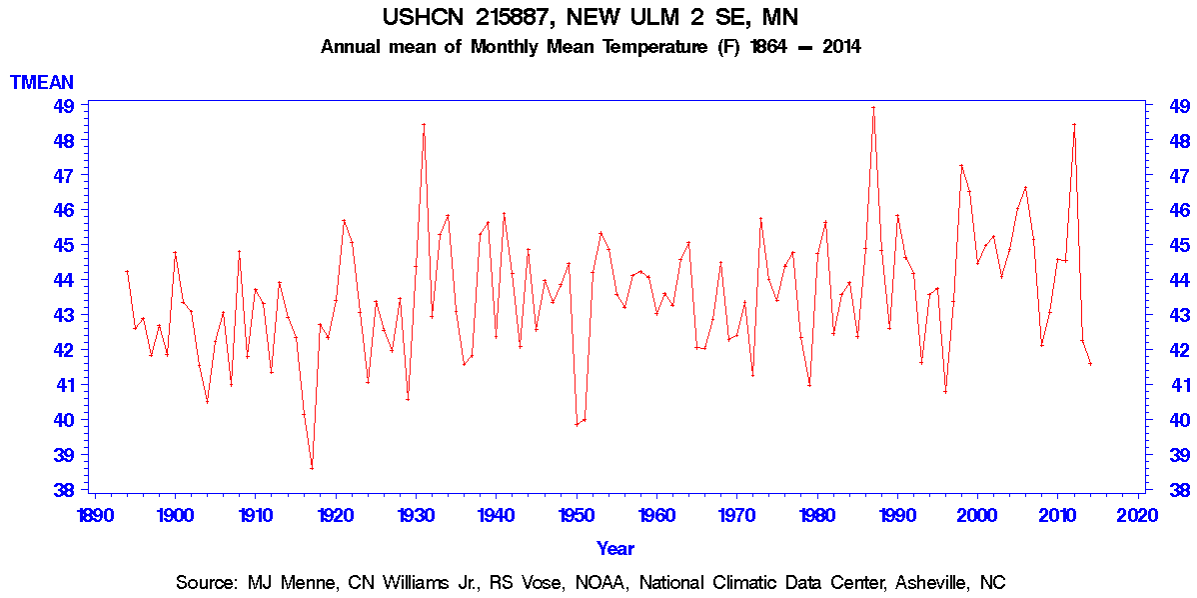
The temperature plot above, which starts in 1994 (based on satellite data) clearly does not go back to the time of Little House on the Prairie. We can get closer using temperature data from thermometers on the ground using this website:
http://cdiac.ornl.gov/epubs/ndp/ushcn/ushcn_map_interface.html
While there is not a site at Walnut Grove, the site in New Ulm, MN is fairly close. And data are available back to the 1890s (Little House took place in the 1870s). Using this plot, revisit questions 1-4 on the previous page. Do any of your answers change after looking at the longer record of temperature?

Plot 4 – Annual Mean Temperature (Degrees Fahrenheit) (44.3 N, 94.5 W)



Source: MJ Menne, CN Williams Jr., RS Vose, NOAA, National Climatic Data Center, Asheville, NC